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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/804,212	03/12/2001	Tomoyuki Nakamura	OOCL-52 (US-P1427)	8909
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STRAUB & POKOTYLO 620 TINTON AVENUE BLDG. B, 2ND FLOOR TINTON FALLS, NJ 07724			REKSTAD, ERICK J	
			ART UNIT	PAPER NUMBER
			2613	

DATE MAILED: 03/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 09/804,212	Applicant(s) NAKAMURA ET AL.	
	Examiner Erick Rekstad	Art Unit 2613	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 07 December 2005.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 4 and 7 is/are allowed.
- 6) ☒ Claim(s) 1-3, 5, 6 and 8-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

This is a Final Rejection for application no. 09/804,212 in response to the amendment filed on December 7, 2005 where in claims 1-15 are presented for examination.

### **EXAMINER'S AMENDMENT**

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with John Pokotylo on March 1, 2006.

The application has been amended as follows:

For claims 13, 14 and 15 replace the status identifier ""(Original)"" with status identifier --(New)--.

### ***Response to Arguments***

Applicant's arguments filed December 7, 2005 have been fully considered but they are not persuasive.

In regards to the arguments related to claim 1, the applicant argued that Chiba does not teach the use of a projecting means and a image display means. The applicant further argued the combination of Chiba and Johnson. It is noted that the claim was rejected under 35 USC § 103 as anticipated by Chiba in view of Johnson and therefore the rejection is based on the combination of Chiba and Johnson. Chiba

teaches a single projection and display means wherein the projecting means and display means are a single monitor (5, Fig. 7). As stated in the previous rejection, Chiba does not teach specifically a plurality of image projection means and an image display means. Johnson is presented to teach the use of a plurality of projection means (54 and 56, Fig. 3) and an image display means (58, Fig. 3). The applicant argues that the combination of Chiba and Johnson would require additional switching means and timing control circuitry. Chiba outputs one set of R.G.B outputs to the monitor as the applicant notes in Figure 8. Johnson clearly teaches taking a single video input and processing it for display using the projection system (Col 6 Lines 28-39). Therefore, the combination of Chiba and Johnson only requires the replacing of the monitor with the display system of Figure 3.

The applicant's argument that a single projector would be the logical choice rather than a plurality of image projectors is merely a design choice that would require taking into account the intended use of the system. If the intended use was a flight simulator, then the use of a plurality of projectors would be needed as taught by Johnson (Col 1 Lines 36-45). Further, Johnson teaches the use of multiple projectors to provided higher resolution images (Col1 Lines 23-26).

In regards to the applicant's arguments related to claim 2, where in the applicant states that the system of Chiba is suited to manual calibration in contrast to Johnson's system which uses a test signal. Chiba clearly teaches the use of a test signal (reference frame) which is used by the system to manual correct the display (Col 15 Lines 16-60). Johnson also teaches the use of a known pattern to determine the

Art Unit: 2613

require corrections (Col 7 Line 61-Col 8 Line 18). Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to replace the manual correction system of Chiba with the automatic system of Johnson in order to provide a display that can be calibrated and re-calibrated with little or no manual intervention (Col 2 Lines 38-41).

The applicant's arguments related to claims 3-6, 8, 9 and 12 rely on the arguments for claims 1 and 2, which have already been responded to.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 14 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The claim requires the protection of images having areas. The examiner was unable to find such a feature in the specification.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3, 5, and 9-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 5,860,912 to Chiba in view of US Patent 6,310,650 to Johnson et al.

[claim 1]

As shown in Figures 7 and 8, Chiba teaches a stereoscopic image display device. The device comprises a display (monitor 5) used for projecting the image signals for the one eye and the other eye which have parallax (Abstract, Col 2 Lines 42-45, Col 5 Lines 3-21). Chiba further teaches the viewing of the stereoscopic images using glasses (spectacles 6, Fig. 7) in order to view only the image for one eye and only for the other eye (Col 7 Lines 13-17, Col 13 Lines 14-30, Figs. 12A-12D). Chiba teaches the correction processing means (keyboard 7, image correction 25R and 25L, Fig. 8) for carrying out correction processing on at least one of image signals for the one eye and the other eye, on the basis of an amount of correction of image distortion determined on the basis of the image displayed on the image display means (Col 5 Lines 22-36, Col 7 Lines 17-18, Col 10 Lines 21-55, Fig. 9). Chiba does not specifically teach the use of a plurality of image projection means.

As shown in Figure 3, Johnson teaches the use of a plurality of CRT based image projecting means (projectors 54 and 56) (Col 2 Lines 55-56, Col 6 Lines 7-18). It would have been obvious to one of ordinary skill in the art at the time of the invention to replace the monitor of Chiba with the projectors of Johnson as both are CRT based and projectors are an inexpensive alternative for large displays.

[claims 2 and 9]

Chiba teaches the use of a keyboard for the input of the required image correction (Col 10 Lines 21-55). Chiba teaches the use of the input for the keyboard by correction processing means (25R and 25L, Fig 8) for each image signal (Col 10 Lines 21-55, Fig. 9). Chiba does not teach the use of a pick-up means for correction for picking-up an image projected on the image display means, for correction and the correction computing means using the pick-up image data to correct the image signals.

As shown in Figure 3, Johnson teaches the use of a pick-up means (camera 62) for picking up an image projected on the image display (58). The pick-up image is used by the correction computing means (52) to correct the image signal (66) (Col 6 Lines 18-26, Col 6 Line 40-Col 7 Line 8). It would have been obvious to one of ordinary skill in the art at the time of the invention to replace the correction method of Chiba with the correction method of Johnson in order to provide a display that can be calibrated and re-calibrated with little or no manual intervention (Col 2 Lines 38-41).

[claims 3, 5, 10 and 11]

Chiba specifically teaches the use of liquid crystal shutter spectacles in the stereoscopic image device as required by claims 5 and 11 (Col 13 Lines 14-30, Figs. 12A-12D). Chiba further teaches the prior art of using polarizing means (Col 2 Lines 1-54, Figs. 2-4). Chiba further teaches the utilization of polarization in place of the liquid crystal shutters (Col 2 Lines 52-54). It would have been obvious to one of ordinary skill in the art at the time of the invention to use the polarizing means of Chiba instead of the liquid crystal shutter means of Chiba as it is well known in the art to use either polarizing

Art Unit: 2613

or shutters for stereoscopic imaging as taught by Chiba (Col 2 Lines 1-54, Figs 2-4) and polarizing is an inexpensive alternative to shutters.

Claim 6 rejected under 35 U.S.C. 103(a) as being unpatentable over Chiba and Johnson as applied to claim 5 above, and further in view of US Patent 5,879,065 to Shirochi et al.

[claim 6]

Chiba specifically teaches the use of liquid crystal shutter spectacles in the stereoscopic image device as required by claim 5 (Col 13 Lines 14-30, Figs. 12A-12D). Chiba further teaches the prior art of using polarizing means (Col 2 Lines 1-54, Figs. 2-4). Chiba further teaches the utilization of polarization in place of the liquid crystal shutters (Col 2 Lines 52-54). Chiba does not teach the use of a second shutter means wherein the projectors and the spectacles have shutters.

As shown in Figure 12, Shirochi teaches the prior art in which the projectors and the spectacles are polarized (Col 1 Lines 10-20). It would have been obvious to one of ordinary skill in the art at the time of the invention to replace the projector and spectacle polarizers with shutters as the techniques are interchangeable as taught by Chiba (Col 2 Lines 52-54).

Claims 8 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chiba and Johnson as applied to claims 1 and 9 above, and further in view of WO 94/22050 to Berglund.

Chiba and Johnson teach the devices of claims 1 and 9 as shown above. Johnson further teaches the use of multiple projectors to produce a single image as



Art Unit: 2613

shown in Figure 3 (Col 2 Lines 55-56, Col 6 Lines 7-18). Chiba and Johnson do not teach the use of a multi-primary-color projector.

As shown in Figure 37, Berglund teaches the use of a six primary color projector for use with a PD-LCD projection system (Page 7 Lines 11-25, Page 26 Lines 19-37). It would have been obvious to one of ordinary skill in the art at the time of the invention to replace the projectors of Johnson with the projectors of Berglund in order to use a PD-LCD system for the sharpest and clearest 3D picture.

Claims 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chiba and Johnson as applied to claim 1 above, and further in view of US Patent 5,612,735 to Haskell et al.

[claim 13]

As shown above, Chiba and Johnson teach the stereoscopic image projection device of claim 1. Chiba teaches the use of a monitor while Johnson teaches the use of multiple projectors. Chiba and Johnson do not teach the use of a first projector receiving a first signal and a second projector receiving a second signal wherein the images projected by the two projectors are combined to define a stereoscopic image on the display.

As shown in Figure 1, Haskell teaches the use of a monitor to present the stereoscopic images or the use of two projectors. The projectors are set up so that one projector is presented the left image and the other projector is presented the right image. The projected images are combined to define a stereoscopic image on the image display (130) (Col 4 Line 65-Col 5 Line 35). It would have been obvious to one of

ordinary skill in the art at the time of the invention to use the multiple projecting means of Haskell with the system of Chiba and Johnson as Haskell teaches the use of projecting the images as an alternative method to using a monitor.

[claim 14]

As best understood by the examiner the images are presented as overlapping on the image display means (Col 4 Lines 65-Col 5 Line 35, Fig. 1).

Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chiba and Johnson as applied to claim 1 above, and further in view of US Patent 6,456,339 to Surati et al. and US Patent 3,943,279 to Austefjord.

[claim 15]

As shown above, Chiba and Johnson teach the device of claim 1. Johnson further teaches the correction of spatial distortions of the projectors using predetermined pattern images (Col 7 Line 61-Col 8 Line 18). Johnson does not specifically teach the type of spatial distortion.

Surati teaches a similar multi-projecting means as Chiba and Johnson, which uses multiple projectors and an imager to calibrate the projectors (Col 8 Lines 48-58, Fig. 1). Surati further teaches the correcting of geometric errors such as keystoneing for the projectors (Col 9 Lines 13-25).

Surati does not specifically teach keystoneing is caused by parallax. Austefjord teaches that a keystone error is caused by parallax (Col 3 Lines 30-45). It would have been obvious to one of ordinary skill in the art at the time of the invention to use the

method of keystone correcting of Surati with the device of Chiba and Johnson in order to correct the geometric errors caused by parallax as taught by Surati and Austefjord.

***Allowable Subject Matter***

Claims 4 and 7 are allowed.

The following is a statement of reasons for the indication of allowable subject matter:

In regards to claims 4 and 7, Chiba and Johnson teach the system of claim 3 as shown above. As shown in Figure 3, Johnson teaches the use of a pick-up means (camera 62) for picking up an image projected on the image display (58). The pick-up image is used by the correction computing means (52) to correct the image signal (66) (Col 6 Lines 18-26, Col 6 Line 40-Col 7 Line 8). Chiba and Johnson do not teach the pick-up means containing a rotation control means and a pick-up time counting means. These features taken with the others in the claims define over the prior art.

***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the

Art Unit: 2613


shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Erick Rekstad whose telephone number is 571-272-7338. The examiner can normally be reached on 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mehrdad Dastouri can be reached on 571-272-7418. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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